

Product Datasheet

Melflufen

Catalog No. **BP-02431** · CAS **380449-51-4** · Form **free base** · Physical state **solid** · Version **1.0** · Revision **2026-09-11**

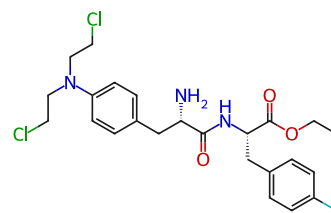
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Target Alkylator/Crosslinker; Apoptosis	Research area Cancer
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Molecular formula **C₂₄H₃₀Cl₂FN₃O₃**

Molecular weight **498.4180**

STRUCTURE



DESCRIPTION

Melflufen (Melphalan flufenamide), a dipeptide proagent of Melphalan, is an alkylating agent. Melflufen shows antitumor activity against multiple myeloma (MM) cells and inhibits angiogenesis. Melflufen induces irreversible DNA damage and cytotoxicity in MM cells .

BIOLOGICAL ACTIVITY

In Vitro

Melflufen (Melphalan flufenamide) (0.5-10 μM; 24 hours) decreases viability of MM.1S, INA-6, RPMI-8226, MM.1R, Dox-40, ARP-1, and ANBL-6 cells in a concentration-dependent manner.

Melflufen induces apoptosis in MM.1S cells.

Melphalan also is a potent activator of exosome secretion.

In Vivo

Melflufen (Melphalan flufenamide) (3 mg/kg; i.v.; twice-weekly for two weeks) shows anti-MM activity in xenograft mouse model.

REFERENCES

- [1]. Chauhan D, et al. In vitro and in vivo antitumor activity of a novel alkylating agent, melphalan-flufenamide, against multiple myeloma cells. Clin Cancer Res. 2013;19(11):3019-3031.
- [2]. Ray A, et al. A novel alkylating agent Melflufen induces irreversible DNA damage and cytotoxicity in multiple myeloma cells. Br J Haematol. 2016;174(3):397-409.
- [3]. McAndrews KM, et, al. Mechanisms associated with biogenesis of exosomes in cancer. Mol Cancer. 2019 Mar 30;18(1):52.

Tel: +86 20 31130026 · Fax: +86 20 36822386 · tech@biochemprobe.com · www.biochemprobe.com

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